

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Sid Pandit on 10/13/09.

The application has been amended as follows:

2. Replace claim 1 with the following:

A single-camera system for monitoring a movement of a striking instrument that impacts with an object comprising:

- (a) a single camera unit having a light sensitive panel that is operable to be focused on a field of view through which the striking instrument passes prior to striking the object, wherein said single camera unit is operable to shutter or gate at least two times as the striking instrument and object pass through the field of view;
- (b) three or more contrasting areas on the striking instrument and one or more contrasting areas on the object, said contrasting areas positioned so that light emitting therefrom reaches said light sensitive panels to form images thereon and create image signals when camera shutters are open;

(c) an image analyzer operable to discriminate between the striking instrument contrasting areas and the object contrasting areas and determining the conditions of a path and orientation of the striking instrument through the field; and

(d) a rotatable calibration fixture having a pivot point and a plurality of predetermined contrasting areas, wherein three dimensional positions of the plurality of predetermined contrasting areas are known relative to each other, and wherein the striking instrument has a striking face, and wherein the striking instrument is calibrated such that the single-camera system is operable to identify a position and orientation of the striking face from the striking instrument contrasting areas, wherein a first calibration image of a first perspective view of the calibration fixture and first plurality of contrasting areas and the striking instrument and second plurality of contrasting areas is captured and the calibration fixture is rotated to a second orientation by the pivot point to provide a second perspective view of the calibration fixture and first plurality of contrasting areas and the striking instrument and second plurality of contrasting areas; wherein the striking instrument is a golf club comprising a club head and a club face and the object is a golf ball, wherein the image analyzer is operable to determine a club head path and face orientation during a swing of the golf club, and wherein the image analyzer is operable to determine a location of impact of the golf ball on the club face with an accuracy of 0.10 inch.

Allowable Subject Matter

3. Claims 1-10, 12-13, 18-37 and 43-45 are allowed.

REASONS FOR ALLOWANCE

4. The following is an examiner's statement of reasons for allowance: Claims 1, 28 and 37 distinguish over the prior art of record in that the Applicant specifically claims "a first calibration image of a first perspective view of the calibration fixture and first plurality of contrasting areas and the striking instrument and second plurality of contrasting areas is captured and the calibration fixture is rotated to a second orientation by the pivot point to provide a second perspective view of the calibration fixture and first plurality of contrasting areas and the striking instrument and second plurality of contrasting areas." The prior art does not disclose these teachings taught by the applicant's claims.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Pinheiro whose telephone number is (571)270-1350. The examiner can normally be reached on M - F 8:00 AM - 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dmitry Suhol can be reached on (571) 272-4430. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. P./
Examiner, Art Unit 3714

/Peter DungBa Vo/
Supervisory Patent Examiner, Art Unit 3714